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May 23, 2006

YOR920030455US1
Serial No. 10/720,564

REMARKS

Claims 1 – 27 remain in the application and are rejected. Claims 6 and 16 are amended herein. No new matter is added.

Claims 6 and 16 are amended herein to recite that the “supply and supply return [ground] lines [terminate] on endpoints of a fingered gap pattern in the immediate vicinity of said at least one inductor.” The amendment to claims 6 and 16 is supported by the application as filed. In particular, the amendment is supported by Figure 4 and the specification on page 13, line 20 – page 14, line 10. No reference of record shows or suggests a power grid with grid lines that terminate “on endpoints of a fingered gap pattern in the immediate vicinity of said at least one inductor.” Consideration and allowance of claims 6 and 16 is respectfully requested.

Claims 1 – 27 are rejected under 35 U.S.C. §102(e) over published U.S. Patent Application No. 2005/0057286 to Shephard et al. The rejection is respectfully traversed.

The applicant notes that Shephard et al. was filed 4 months prior to the present application. Accordingly, the applicant can, if necessary, show a date of invention prior to Shephard et al. However, such a showing is believed unnecessary for reasons set forth below.

Regarding claims 1 and 12, it is asserted that Shephard et al. teaches the recitation of a power grid with discontinuous grid lines “in the vicinity of each said at least one inductor, whereby power grid line loops are open in the vicinity of each said at least one inductor.” Specifically, it is asserted that this recitation of claims 1 and 12 is disclosed “Because the spiral inductors are generally much larger than the power grid, most of the

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potential deleterious coupling will be to the underlying power grid. To reduce eddy current formation in the underlying grid, the vias in the grid can be dropped and small cuts can be made in the wires. This technique is generally known to those skilled in the art of RE circuit design as it is analogous to ground plane laminations used for spiral inductors in RF circuits) ([0035; [0039];” (emphasis the Examiner’s). Be that as it may, however, this recitation of paragraph 0039 of Shephard et al. is silent regarding the location of any “small cuts can be made in the wires.” *Id.* Therefore, Shephard et al. fails to teach the present invention as recited in claims 1 and 12. Furthermore, Shephard et al. paragraph 0035 specifically recites that “For the sake of clarity, the grid for power distribution, which is generally formed on the M4, M5 and M6 layers, has been omitted from the diagram in FIG. 1.” Thus, Shephard et al. is not particularly interested in the power grid configuration.

By contrast, with reference to Figure 4, the present application provides that “[i]t should be noted that in Figure 4, the grid 400 represents the power grid, not the clock distribution grid.” *Supra*. Moreover, “the power grid discontinuities form a fingered gap 404 pattern in both vertical and horizontal power grid lines in the immediate vicinity of the spiral inductor 402 to minimize local power grid wire loops without interrupting local power distribution.” *Id.* A general statement of making “small cuts can be made in the wires” does not imply a power grid with discontinuous grid lines “in the vicinity of each said at least one inductor,” as claims 1 and 12 recite, much less as amended claims 6 and 16 specifically recite. Therefore, Shephard et al. fails to teach or suggest the present invention as recited in claims 1 and 12 or, further, in claims 6 and 16.

Furthermore, since dependent claims include all of the differences with the references as the claims from which they depend, Shephard et al. does not teach the present invention as recited in claims 2 – 5, 7, 13 – 15 and 17 – 20, which depend from claims 1, 6, 12 and 17, respectively. Reconsideration and withdrawal of the rejection of

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claims 1 – 7 and 12 – 20 under 35 U.S.C. §102(e) over Shephard et al. is respectfully requested.

It is further asserted that Shephard et al. teaches a first and second clock phase at opposite ends of the inductor as recited in claims 8, 17 and 21 at lines 4 – 9, 4 – 5 and 6 – 7, respectively. Specifically, it is asserted that Shephard et al. shows the recitation of claims 8 and 17 (with corresponding recitations in claim 21) of “a second clock phase, said at least one inductor being connected to said second phase at an other end,” at paragraphs 0019, 33, 34, 36, 47 and 55 and by Shephard et al. claims 9 and 21. While Shephard et al. claims 9 and 21 are directed to a clock driver driving reactive elements in a resonant clock driver distribution circuit, neither is directed to clock phases at opposite ends of an inductor as recited in claims 8, 17 and 21 of the present application. Shephard et al. paragraph 0034 specifically recites that in “FIGS. 1A and 1B, the spiral inductors 120 have one end coupled directly to the clock grid 125 and the other end to a ground potential via a large decoupling capacitance, not shown.” So, Figures 1A and B show a single clock phase. Since paragraphs 0019, 33, 36 and 47 are also directed to Shephard et al. Figures 1A and 1B, it is apparent that they also fail to show “a second clock phase, said at least one inductor being connected to said second phase at an other end,” as recited by claims 8 and 17, and correspondingly, claim 21, of the present application. Shephard et al. paragraph 0055 recites that “the clock signal may use a differential scheme in which in which two complementary phases of the clock signal are distributed across the integrated circuit on two independent clock subgrids.” (emphasis added). Thus, equally clearly, this fails to teach or suggest show “a second clock phase, said at least one inductor being connected to said second phase at an other end,” as recited by claims 8 and 17, and correspondingly, claim 21, of the present application. Therefore, Shephard et al. fails to teach or suggest the present invention as recited in claims 8, 17 and 21.

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Furthermore, since dependent claims include all of the differences with the references as the claims from which they depend, Shephard et al. does not teach the present invention as recited in claims 9 – 11, 18, 19 and 22 – 27, which depend from claims 8, 17 and 21, respectively. Reconsideration and withdrawal of the rejection of claims 8 – 11, 17 – 19 and 21 – 27 under 35 U.S.C. §102(e) over Shephard et al. is respectfully requested.

The applicant has reviewed the other references cited, but not relied upon in this rejection, and find them to be no more relevant than the reference upon which the rejection is based.

The applicant thanks the Examiner for efforts, both past and present, in examining the application. Believing the application to be in condition for allowance, both for the amendment to the claims and for the reasons set forth above, the applicant respectfully requests that the Examiner reconsider the rejection of claims 1 – 27 under 35 U.S.C. §102(e) and allow the application to issue.

The applicant notes that MPEP §706 “Rejection of Claims,” subsection III, “PATENTABLE SUBJECT MATTER DISCLOSED BUT NOT CLAIMED” provides in pertinent part that

If the examiner is satisfied after the search has been completed that patentable subject matter has been disclosed and the record indicates that the applicant intends to claim such subject matter, he or she may note in the Office action that certain aspects or features of the patentable invention have not been claimed and that if properly claimed such claims may be given favorable consideration. (emphasis added.)

The applicant believes that the written description of the present application is quite different than, and not suggested by, any reference of record. Accordingly, should the Examiner believe anything further may be required, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below for a telephonic or personal interview to discuss any other changes.

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Please charge any deficiencies in fees and credit any overpayment of fees to IBM
Corporation Deposit Account No. 50-0510 and advise us accordingly.

Respectfully Submitted,



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